SUPPLEMENT
TO THE
British Medical Journal

LONDON: OCTOBER 11TH, 1890.

A WEEKLY EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(33) Anodyne Effects of Electric Light.

DR. STANISLAUS TH. VON STEIN, of Moscow, records (*Meditzinskoïe Obozrenië*, No. 12, 1890, p. 1156) a series of 14 cases of various painful affections in which he used electric light as an anodyne, with almost "magical" results. The apparatus (devised by himself) used for the purpose consisted of a small-sized (three or four volts) incandescent electric lamp, furnished with a suitable handle and a funnel-shaped reflector, varying from 3.5 to 6 centimètres in length and from 2 to 3 in the longest diameter, the lamp being fixed within the reflector. In cases where the head or neck was affected, the illumination (the reflector being applied directly to the painful area) lasted from ten to fifteen seconds; in other regions of the body from one to five minutes, or even longer, until the patient began to complain of intense heat. The anodyne effects are said to have been invariably most striking. A woman, suffering from very obstinate intercostal neuralgia, after a single sitting (a series of illuminations, each of a few seconds' duration) was completely and permanently freed from pain. The same result was obtained in another patient suffering from intense rheumatic pains about the shoulder. In a woman, aged 50, suffering from agonising lumbago, four sittings of five minutes' duration twice a day proved equally successful. In another patient, a nervous woman who had had excruciating pain about the right foot and ankle causing lameness, two illuminations of five minutes' duration caused complete cessation of the symptoms. In a patent suffering from pulmonary and laryngeal tuberculosis, and most troublesome, almost incessant, cough, in whom even morphine in the daily dose of one grain had afforded but trifling relief, from ten to fifteen seconds' illumination of the larynx and both sides of the neck externally, repeated every other day, reduced the paroxysms of coughing to two or three in the twenty-four hours.

(34) Unusual Hysterical Conditions.

THE *Neurologisches Centralblatt* for September 15th, 1890, contains abstracts of several interesting cases of hysteria. The first are recorded by MM. Bellet and Tessier (*Arch. de Neurologie*, vol. 20, No. 58). These authors give notes of three middle-aged, patients, all of whom were affected with hysterical stammering. They all got well in a few months. Bessière (*Ann. Méd.-psych.*, March, 1890) mentions a case of hysterical spasm of the glottis which had lasted for many years and was cured by hypnotic suggestion. Mölius (*Schmidt's med. Jahrbücher*, 1890) gives the case of a woman, aged 30, who was hysterical, and was also affected with atrophy of the hair all over the body. Bourneville and Sollier (*Arch. de Neurologie*, vol. 18, No. 54. and vol. 19, No. 55) record some cases of marked hystero-epilepsy in young boys from 11 to 19 years of age. Strassmann (*Deutsche med. Wochenschr.*, 1890, No. 10) gives a case of hysterical aphasia in a young boy, who also had facial paralysis and trismus. Huet (*Weekbl. van het. Nederl. Tijdschr voor Geneesk.*, 1888, II, 22), records the case of a woman, aged 25, who presented hysterical facial paralysis. Rauzier (*Clinique Médicale de l'Hôpital Saint Eloi*, Montpellier, 1890) calls attention to the important subject of hysteria induced by acute illnesses, and mentions two cases in point. Bearing on this subject we have a case of traumatic hysteria recorded by Kronfeld (*Wiener med. Wochenschr*, 1890, No. 17), and a case of hysterical monoplegia developed after a fracture of the radius, recorded by Gumm (*Prog. Méd.* 1890, No. 16). Levy (*Inaugural Dissertation*, Berlin, 1890) gives an interesting case of hysterical amaurosis. Mierzejewski (communication to the St. Petersburg Neurological Society, May, 1890) and Sciamanna (*Bolletino della Società Lancisiana*, 1888) record important cases of hysterical pyrexia. It may be remembered that instances of the same condition were recorded by Drummond and Philipson, in the BRITISH MEDICAL JOURNAL December 22nd, 1888, and other cases are recorded in the *Clinical Society's Transactions*.

(35) Disinfection in Cholera.

DR. S. F. RAPTCHEVSKY, of St. Petersburg (*Voënno-Meditzinsky Jürnal*, No. 5, 1890, p. 54), in a memorandum presented to the Russian Military Medical Scientific Committee, and based mainly on his own extensive experimental researches, lays down the following rules for disinfection in Asiatic cholera: 1. Any cheap articles (such as straw from palliasses, mats, etc.) which have been used in cholera cases should be burnt. 2. Cholera stools should be disinfected by mixing them (*a*) either with 3 per cent. (by volume) of a 20 per cent. milk of lime (lac calcis); or (*b*) with an equal amount of a 5 per cent. carbolic acid solution; or (*c*) an equal amount of a 4 per cent. solution of chlorinated lime; or (*d*) an equal amount of a 5 per cent. solution of a sulphocarbolic mixture, prepared by mixing three parts of crude carbolic acid with 1 part of sulphuric acid. In either case the stools treated with the disinfectant should be left alone for two or three hours, and afterwards thrown into a latrine. 3. Linen, bedding, and clothes used by cholera patients are best disinfected by exposure to steam (at 100° C.) for half an hour or an hour. If steaming is impracticable, the articles may be boiled in water for half an hour, or immersed for four hours in a 2 per cent. solution of carbolic acid, or 1 per cent.

solution of chlorinated lime, or a 4 per cent. solution of milk of lime. Leathern articles should be washed with a 5 per cent. carbolic acid solution, or a 4 per cent. one of chlorinated lime, or a 5 per cent. solution of the sulphocarbolic mixture. 4. The patient's room should be disinfected by washing the floor, door, and all wooden parts twice with a 2 per cent. carbolic acid solution, or 1 per cent. one of chlorinated lime, while the walls and ceilings should be whitewashed with milk of lime, and the apartment afterwards thoroughly ventilated. 5. Contaminated latrines, cesspools, dust boxes, and soil are best disinfected by pouring into or over them a 5 per cent. solution of the sulphocarbolic mixture until a supernatant layer of the disinfectant fluid has formed. 6. Things which cannot be treated by any of the methods indicated should be left in a dry and thoroughly ventilated place for several months. 7. The bodies of those who die of the disease should be immediately wrapped in sheets soaked in some strong disinfectant solution, placed in coffins, and buried. 8. All persons who come in contact with cholera cases should wash themselves with a 2 per cent. solution of carbolic acid, or creolin, or aseptol, and should have their clothes thoroughly disinfected.

(36) The Neurotic Symptoms Produced by Carbonic Oxide Gas.

M. BOULLOCHE (*Archives de Neurologie*, September) gives an interesting account of various nervous symptoms due to poisoning by carbonic oxide gas. Special attention has been drawn to this subject by the introduction of water gas, and Dr. Stevenson, in the last number of the *Guy's Hospital Reports*, published two cases of poisoning by this illuminant. M. Boulloche says that various paralyses are common, either scattered about in various muscles or existing as monoplegia or hemiplegia. The extensors of the fingers and toes are most frequently affected, and hemiplegia is by no means uncommon. There may be anæsthesia over the paralysed muscles, or this may occur independently of paralysis, either limited to a definite nerve distribution or irregularly distributed. Disorders of nutrition are common; that most often seen is for the affected part to swell with a kind of hard œdema, and to become of a reddish blue colour. Most patients get well, and there is, from the few *post-mortem* examinations which have taken place, no sufficient ground for a pathological basis.

(37) The Spinal Column in Suspension.

DR. JAMES CAGNEY (*Journal of Anatomy and Physiology*, July, 1890, p. 585) has investigated the effect of traction upon the spinal column, and has found that whilst the concavity of the dorsal spine is lengthened, the convexity is shortened. Therefore the spinal cord would be loosened and not stretched by a straightening out of the column, as for instance by suspension. It is further shown that shortening and relaxation take place in all the curves when the body hangs freely by the arms. The action of the muscles is also mentioned, and is shown to tend towards the shortening of the spinal canal, and therefore to the protection of the cord which it contains.

SURGERY.

(38) Intubation without Gag or Extractor.

DR. GUIDO BELL, of Indianapolis (*Journal of the American Medical Association*, August 30th, 1890), writing on intubation of the larynx, says that he has now discarded both the gag and the extractor. The child being seated on an attendant's lap, he passes his left index finger into the mouth and behind the root of the tongue. On this the little patient "gags," and the larynx rises to the operator's finger, when the tube is at once pushed into the larynx with the right hand and kept in place for a moment with the left. The thread is then fastened to the patient's cheek. The advantages of this method, according to Dr. Bell, are that no assistant is required, the child is not excited and does not dread a repetition of the operation, and the tissues of the pharynx and larynx are not injured by sudden movements of the patient. Dr. Bell states that the child's glottis gives to the finger much the same sensation as the os uteri. If it feels "smeary," the suffocation is said to be due to membrane rather than to œdema. Dr. Bell has intubated in the way described over a hundred times, and has been successful in introducing the tube at the first attempt except in two or three "asphyxiated cases." He removes the tube without an extractor by simply grasping the larynx externally with the fingers and pressing it out. Dr. Bell has done this in five cases in which removal with the extractor had completely failed. His estimate of intubation is not very encouraging; he says it has not very much increased the percentage of recoveries in his practice, and most of the little patients have died.

(39) Suppurative Periostitis after Typhoid Fever.

AN interesting observation has been made with reference to those suppurations which sometimes follow typhoid fever. In a recent number of the *Semaine Médicale* M. Achalme gives the result of the bacteriological examination of an abscess which formed at the inner side of the tibia of a patient convalescing from typhoid. The pus contained the bacillus peculiar to that disease and none others, and the cultures on potato were quite typical, as were also their effects upon animals. Our knowledge of this class of abscess is so scanty that it is to be hoped that this observation will soon be supplemented by others.

(40) Laryngectomy for Cancer.

PROFESSOR JUAN CISNEROS, of Madrid, adds (*Revista Clinica de los Hospitales*, No. 18) another to the growing list of cases of complete removal of the larynx for cancer. The patient, a man aged 46, came under notice in November, 1889. The symptoms dated from the previous May, and had come on after an attack of pneumonia. The tumour, which sprang from the left side of the larynx, occupied almost the whole of the vestibule, reaching up to the epiglottis and across nearly to the right ary-epiglottic fold. The symptoms being urgent, tracheotomy was at once performed. The diagnosis of cancer having then been confirmed by microscopic examination and by the failure of antisyphilitic treatment, Dr. Cisneros proposed removal, but the patient would not consent to this for some time, during which the disease made further progress. His condition, therefore, was far from satisfactory when the operation was undertaken on February 11th. Trendelenburg's tube was used, but the patient took the chloroform badly, and a good deal of time was lost. After an hour and a half, as syncope seemed to be impending, the portions of the tumour projecting into the laryngeal cavity were cut away, the wound washed with sublimate solution, the larynx stuffed with iodoform gauze, and the patient put to bed. On the following day the entire larynx was removed; "not a single vessel required to be tied and not a drop of blood passed into the trachea." The operation lasted forty minutes. An œsophageal tube was introduced and the wound dressed as before. On the following day (February 13th) the Trendelenburg's cannula

was replaced by an ordinary tracheotomy tube. On the 16th, the œsophageal tube caused the patient so much discomfort that it was dispensed with, as it was found that swallowing, though somewhat painful, was performed without difficulty. On March 1st, the tracheotomy tube was taken out, and one of large calibre passed into the upper end of the trachea through the wound, a large drainage tube being placed in the upper part of the wound. On March 8th, the only space left unfilled in the place where the larynx had formerly been was that occupied by the two tubes. As the patient was anxious for his discharge, and as he could make himself understood sufficiently well for ordinary purposes without an artificial larynx, he was allowed to leave the hospital on May 8th. At that time recurrence had begun to take place in the track of the cannula. On microscopic examination the tumour was found to be a lobulated epithelioma.

(41) Bloodless Tonsillotomy.

PROFESSOR J. TOISON, of Lille (*Rev. de Thér. Méd. Chir.*, October 1st), discusses the various methods of reducing or removing enlarged tonsils. He begins by saying that excision of the tonsils with the bistoury or the guillotine is gradually losing favour among surgeons on account of the risk of hæmorrhage. Ignipuncture with the thermo-cautery or the galvano-cautery is often useful, but should be reserved for cases in which the tonsils are only moderately enlarged and can be sufficiently reduced in one or two sittings, and for cases in which some anomaly of shape in the hypertrophied glands makes it difficult to remove them with a cutting instrument. For ordinary cases, Professor Toison uses a new snare of his own invention, which, according to him, effectually obviates all danger of bleeding. The apparatus consists of a *serre-nœud*, the metallic loop of which, instead of being free, is fixed by three silk threads to a blunt ring fixed to the distal end of the instrument. The ring is passed over the tonsil, which is then seized with forceps; the wire loop is next pulled home in the usual way, the traction being sufficient to snap the silk threads which fix it temporarily to the ring. The tonsil is thus cut through without bleeding. Professor Toison has performed this operation several times since last April; in no case has there been any hæmorrhage.

MIDWIFERY AND DISEASES OF WOMEN.

(42) Hydrosalpinx and Pyosalpinx.

DR. LANDAU (*Nouv. Arch. d'Obstétrique et de Gynécologie*, 1890) read in the Section of Obstetrics and Gynæcology, at the Berlin meeting of the International Medical Congress, an excellent paper on the treatment of fluid collections in the tubes. He considers that the diagnosis of a tubal sac is not necessarily an indication for its extirpation. Since such an operation involves many dangers, even after recovery from its immediate effects, the precise indications which justify it must be accurately determined. Dr. Landau first discusses hydrosalpinx. That disease may undergo spontaneous cure; cases of intermittent hydrosalpingitis indicate how cure can take place. The methods of effecting cure without mutilation are "orthopædic" and surgical. The "orthopædic" methods are rectification of a displaced uterus, massage, catheterisation of the Fallopian tube, and dilatation of the uterus. Rectification of a retroversion or other displacement favours the escape of the contents of the dilated tube, as in intermittent hydrosalpingitis. Massage, properly performed, has the same favourable effect. This practice also causes the breaking down of adhesions of the tube, whether with other parts of itself or with the uterus and other adjacent structures. The tube is thus set free, and contractions of its muscular coat excited. Dr. Landau rejects catheterisation of the tubes. An elastic sound cannot be introduced into the uterine orifice of the tube; a rigid instrument is dangerous. Dilatation of the uterus is difficult and very uncertain. The process involves manipulations which may rupture a suppurating tube, or cause a simple hydrosalpinx to suppurate. The surgical proceedings, short of salpingotomy or castration, which may cause pendulous abdomen or grave nerve complications, are puncture by the vagina or incision. When puncture of the dilated tube through the vagina is practised strict antiseptic precautions are called for. By pressure on the abdominal walls the tumour is pushed well downwards. A special trocar, guided by the finger, is pushed into the dilated tube without the aid of the speculum, and without any fixing of the uterus by forceps, etc. Great care must be taken to avoid the entrance of air, and aspiration should never be attempted. With these precautions the neighbouring organs and the vessels are not damaged, and, as a rule, are hard to damage. The above proceeding Dr. Landau terms "palpatory puncture." It may prove sufficient by allowing contraction of the muscular coat, its effects then resembling the phenomenon which occurs when the membranes are punctured in pregnancy. Should the flaccid tube fill once more after puncture the process may be repeated, the cavity being washed out with a 3 per cent. solution of carbolic acid, or tincture of iodine may be injected into the empty sac. Leaving a cannula in the sac is not advisable. In obstinate cases of refilling incision may be performed. In a long series of cases where Dr. Leopold has employed the method of simple puncture of the tube, he has opened by mistake ovarian, parovarian, and hydatid cysts and tubal fœtal sacs, without fatal results.

(43) A New Method of Performing Hysteropexy.

DR. LAROYENNE (*Progrès Médical*, July 5th, 1890) performs hysteropexy in the following manner. A sound is passed into the uterus, and that organ is pushed up and pressed against the abdominal wall. An incision, about three inches in length, is made through the median line, well upon the fundus and anterior aspect of the uterus; the peritoneum is opened. A long needle, mounted on a handle, is passed through the muscular tissue of the abdominal wall, and through the peritoneum half an inch from its cut border, and is then made to transfix half an inch of the anterior aspect of the uterus at the level of the fundus, passing through the peritoneum and muscular tissue of the abdominal wall on the side opposite the point of introduction. The needle is left in place, and two or three more needles are passed, in the same manner, lower down at intervals of half an inch. The needles are then threaded with catgut. The uppermost suture is tied after the withdrawal of its needle. Then the next needle is withdrawn and its catgut suture tied. The process is repeated with the remaining needles and sutures. In this manner the uterus is kept steadily forwards till secured by all the sutures. The superficial wound is closed, and a plug of iodoform gauze is passed into the vagina, serving as a provisional pessary. The uterus should not be pulled upwards with the hand; M. Laroyenne's proceeding avoids this objectionable practice. The peritoneum must be opened; Caneva's extraperitoneal proceeding has been performed with safety and precision, but the omentum is often in the way, and an intestinal adhesion to the front of the uterus existed in one case (Blanc, of St. Etienne). If

the uterus can be very clearly seen through the peritoneum, the latter may be left undivided if it be only to avoid troublesome prolapse of intestine.

(44) Antisepsis in Gynæcology and Midwifery.

DR. AUVARD (*Arch. de Tocologie*, August, 1890) describes his method of insuring clean instruments and preventing them from fouling when packed in their cases and boxes. The handles of the knives are of the same metal as the knives themselves; glass is avoided as much as possible, since it is less easy to disinfect than metal. Friction of instruments, after use, with emery powder is purely æsthetic. Soaping and brushing is necessary to wash off visible impurities, but the process does not destroy germs. Immersion in antiseptic fluids not strong enough to damage the metal is good, but not absolutely efficacious. Catheters and forceps may be thoroughly disinfected by fire, the instrument, well cleaned, being passed through the flame of a spirit lamp, or else a few drops of spirit may be poured into the metal box in which the instruments are packed. The flame must be applied for about a minute to the instrument. Boiling water is easily procured, and is good for knives, etc., which it does not spoil, but it tarnishes steel and nickel. The most perfect method, however, of rendering these delicate instruments aseptic is the stove. The *autoclave*, or compressed vapour stove, is not so good as a dry-heat stove like Poupinel's. The instruments, laid out in a metal box, should be left for half an hour in the stove at a temperature of 150° C., being 50° C. above boiling point. Dr. Auvard finds that a high temperature blunts the knives. Strong antiseptic solutions alone avail for india-rubber and glass tubes. Obstetric and gynæcological cases made of leather should not be constructed so that the instruments are fixed in straps against the leather. The instruments should be rolled up in a calico or longcloth sheet, which must be washed at least once a fortnight.

DISEASES OF CHILDREN.

(45) An Improved Method of Lavage.

A VERY simple improvement in the apparatus for washing out the stomach, a procedure often of great value in the treatment of gastric disorders in childhood, has been described by Dr. W. Beattie Nesbitt in the *Archives of Pediatrics*, September, 1890. The fluid is obtained as usual from a siphon bottle placed above the level of the child, but the india-rubber tube from this bottle is connected with the stomach catheter, not by a piece of straight glass tubing, but by a glass tube shaped like a widely open tuning fork; the handle of the tuning fork is connected with the stomach catheter, one limb with the tube from the bottle, and the other with a waste tube conducted into a suitable receptacle. It is convenient to have the tube from the bottle and the catheter of red rubber, and the waste tube of black rubber. The tubes from the two limbs are placed over the forefinger of the right hand, and are held loosely in the palm; either can then be easily compressed by the thumb. When it is desired to fill the stomach, the catheter having been introduced, the waste tube is compressed, and the fluid readily flows into the stomach from the bottle; when the stomach is to be emptied the red or siphon tube is compressed, and the black released. If the eye of the catheter becomes blocked, as often occurs, the current is easily reversed by compressing the black and releasing the red tube. Dr. Nesbitt recommends the use of a mouth gag, and, after inserting the tube, places the child on its side, with the face slightly downward. Before removing the catheter the stomach is filled quite full. An act of vomiting generally follows the withdrawal of the tube, or if not may be excited by titillating the fauces. "In this way," writes Dr. Nesbitt, "I have often seen removed large pieces of coagulated putrid casein, half an inch to an inch in length, of such a tough leathery consistence that no amount of washing would have broken them up."

(46) Treatment of Spastic Paralysis.

SEVERAL cases of spastic paralysis, in which considerable improvement was obtained by energetic orthopædic treatment, have been reported by Professor V. P. Gibney in the *Journal of Nervous and Mental Disease*, August, 1890. He divides tendons and keeps the limbs in normal position for two or three months. The relief given to the nervous condition in many cases is stated to have been most marked. As an example of what has to be done, it may be added that in one well-marked case, a girl, aged 7, with scissor-like progression, the Achilles tendons, the adductors of the thighs, and the hamstring tendons, were all divided on each side; adduction was further overcome by force, the knees straightened, and the feet placed in the position of slight calcaneus. The child was then placed in a wire cuirass, the leg portions of which were abducted, and not removed for six weeks. Subsequently posterior braces had to be worn to overcome some remaining contraction of the hamstrings. When last seen, nearly two years after the operation, she was able "to walk several blocks," the heels came well down, in-knee was very slight, and excitability was much diminished.

(47) The Diagnosis of Pulmonary Cavities in Children.

IN the *Revue des Maladies de l'Enfance*, for September, M. Aldibert enlarges on the untrustworthy character of the physical signs of pulmonary cavity in children. Dulness, cavernous breathing, gurgling, and the cracked-pot sound may all be present in cases not only of pleurisy, acute and subacute, but also—and this is not generally recognised—in acute pneumonia. Conversely, the most careful auscultation and percussion may fail to discover any signs of even large cavities, proved to have existed by *post-mortem* examination. Further, he points out that the localisation of physical signs at the apices is not, in children, evidence of their tubercular nature. Several well-observed cases are recorded, and his conclusion is that the signs of pulmonary cavity in children must be interpreted with the greatest reserve.

(48) Atropine in Enuresis.

DR. R. BRUCE JAMES reports in the *Archives for Pediatrics*, September, 1890, the results of a systematic trial in an orphan asylum of atropine as a remedy for enuresis in children. He found that in order to obtain a successful result it was necessary to give a full physiological dose. He commenced by giving $\frac{1}{100}$ of a grain of atrophine sulphate, but no case was benefited by less than $\frac{1}{75}$ of a grain, and in one case $\frac{1}{50}$ of a grain had to be given. The required quantity was given in two doses at 6 and 9 P.M. The drug controlled the enuresis as long as it was taken, but even when the dose was continued nightly for a month, its withdrawal was, in a large proportion of the cases, immediately followed by recurrence of the condition for which it was given; in some cases, however, the enuresis did not recur for periods varying from a week to six weeks; one case only, a healthy boy but slightly affected, was completely cured. It was found useless to diminish the

dose gradually in the hope of keeping up the action; anything short of the full physiological dose seemed to produce no effect whatever. In one case full doses produced only temporary relief; in one only were symptoms of poisoning observed, and these not sufficiently severe to warrant a suspension of the remedy. Fifteen cases are reported, all otherwise in good health, but Dr. James states that he has used the treatment in many other cases, and that the enuresis was controlled in every case under 12 years of age; children above this age were not "benefited in the least." Dr. James thinks that in children too big to wear diapers "we can with confidence offer a substitute in the shape of a full dose of atropine, to be repeated every night till the child has outgrown his infirmity, and this point can be tested by having the drug withheld from time to time."

(49) Pancreatic Digestion in Marasmus.

M. H. GILLET has examined the activity of the pancreas removed during cold weather shortly after death from seven children. His results, as reported in the *Annales de la Policlinique de Paris* (September), are worthy of note, though his cases are too few to allow any conclusions to be drawn. 1 and 2. Two of the children were twenty-four days old when they died of "congenital debility;" in both the action of the pancreatic extract on starch was very slight; and in the one case in which the emulsifying and proteolytic action was tested, both were very imperfect. 3. In a child, aged fifty-three days, who died of athrepsia and bilious diarrhœa, starch and casein were very slowly acted on, but oil was emulsified. 4. In a child, aged three months, who died of lienteric diarrhœa there was no action on starch, casein, or oil. 5. In a child, aged eight months and a half, whose death was due to congenital debility, starch was reduced in ten minutes. 6. In a boy, aged twenty-two months and a half, who died of pulmonary tuberculosis, albumen was rapidly dissolved, but the action on starch was delayed and on oil was imperfect. 7. In a boy, aged three years and a half, who died of measles and diphtheria, starch was reduced in twenty minutes. M. Gillet, as is right, refrains from stating any definite conclusions, but considers that these results tend to support previous observations as to the inactivity of the pancreas during the first months of life, and to show that in lienteric, and perhaps also in bilious, diarrhœa, it loses its power of acting on starch and albumen, while this power is retained in such severe diseases as "tuberculosis, measles, and diphtheria." His experiments were carefully performed, and precautions were taken to render the fluids aseptic.

(50) Secretion of Milk in Infants.

DR. P. G. VARIOT, in the *Gazette Médicale de Paris* (October 4th), reports the result of his observations on a series of infants carefully examined as to the presence of milk in the mammary glands. The numbers are not sufficiently large to have any statistical value, but the cases quoted show that the occurrence of the secretion does not depend upon the general condition of the child, since it was present even in considerable quantities in cachectic and syphilitic infants. The milk is most often to be obtained (by gently squeezing the gland) from the eighth to the twelfth or fifteenth day after birth; the functional activity of the gland, even when most marked, rapidly diminishes after the fifteenth day, though for four or five months some serous fluid may still be expressed. During the period of greatest activity the gland is swollen and slightly tender, and the condition has some clinical importance, since blocking of the ducts may lead to abscess. The secretion occurs with about equal frequency in male and female infants. Microscopically the fluid presents the same appearance as woman's milk; after the fifteenth day, at latest, it begins to be more transparent, and under the microscope is seen to contain fewer milk globules, and a considerable number of leucocyte-like cells appear, many of which contain fat granules. Several samples of the milk were analysed; the average of two analyses gives: Fat, 0.0155; casein, 0.019; and lactose, 0.044 per mille; but the composition appears to vary a good deal.

DISEASES OF THE EAR.

(51) Influence of Sex in Ear Disease.

DR. LOEWENBERG, of Paris, discusses (*Journal des Connaissances Médicales*, September 25th) the influence of sex in what he calls the "lateralisation" of ear disease. After referring to the view generally held by otologists that the left ear is more liable to be attacked alone, or to be attacked first and to suffer more severely when both ears are affected, he says that he has for a long time past been struck with the fact that while deafness is more common on the left side in men, the same does not hold good in the case of women. From statistics of 3,000 cases (not including diseases of the concha and external meatus) which have come under his own notice, he shows in the first place that the male sex is more subject to ear disease than the female, there having been 1,790 of the former to 1,210 of the latter. Among those in whom only one ear was affected, there were 478 men and 311 women. The right ear alone was affected in 212 men and 167 women; the left alone in 266 men and 144 women. Deafness existed in both ears in 1,074 men and 737 women. Among this number, the right ear was the more deaf of the two in 427 men and 340 women, the left in 647 men and 397 women. Deafness was equal on both sides in 238 men and 162 women.

EMBRYOLOGY.

(52) Development of the Sympathetic in Mammals.

PROFESSOR A. M. PATERSON (*Proc. R. S. Lond.*, vol. 48) treats of the development of the sympathetic nervous system in mammals. Two opposite views exist at present regarding the development of the sympathetic cord. According to the older view it is mesodermal, and is formed *in situ;* according to more recent views it is ectodermal. Those who maintain the latter view disagree as to whether it comes from the spinal nerve or from the spinal ganglion. Paterson has used the embryos of rats, mice, rabbits, and human embryos. The sympathetic cord appears after the spinal nerves are completely formed and arises as a solid, uniform, unsegmented rod of fusiform cells, imbedded in the mesoblast surrounding the aorta. This cellular body is formed by the differentiation of the mesoblastic cells *in situ;* it is not connected with the spinal nerves and is unsegmented. The next step is the junction of the spinal nerves on either side with these columns of cells. This is effected by the gradual growth of the inferior primary division of the nerve and its final division at the junction of the body wall and splanchnic area into somatic and splanchnic branches. The latter joins the cellular sympathetic cord. This is the splanchnic branch, and arises from both roots of the spinal nerve; its peripheral ends either stop in the sympathetic cord or pass onwards over it. The formation of the sympa-

thetic ganglia takes place later, and is subordinae to the connections of the splanchnic spinal nerves with the sympathetic. Gangliation is due to junction of these splanchnic spinal fibres, and is also due to the anatomical relations of the sympathetic cord to the bony segments. The formation of the ganglion impar is also traced.

BACTERIOLOGY.

(53) American and German Hog Cholera.

Dr. Francesco Raccuglia (*Centralblatt f. Bakt. und Parasitenk.*, Bd. viii, No. 10, August 29th, 1890, p. 289) comes to the conclusion that the bacteria found in American and in German swine plague are not identical; they differ not only in microscopic appearances, but also in the manner in which they take on stains and in their vital reactions. The bacillus of hog cholera is slightly motile, and grows somewhat rapidly; that of the German *Schweineseuche* is motionless, and multiplies more slowly at the ordinary temperature. They both behave in much the same way when inoculated into mice, pigeons, and white rats, but hens, although not affected by the hog cholera bacillus, are killed in twenty-four hours by that of *Schweineseuche*. In rabbits there is no local reaction when the former is inoculated, but small yellowish or grey points appear in the liver; whilst in the case of the latter there is œdema and thickening of the muscular and subcutaneous tissues at the point of inoculation, but there are no changes in the liver. The bacillus of hog cholera, introduced into a loop of the small intestine of the rabbit, caused death in four days, and there were found swellings of the glandular tissue of the intestine and ulcers. With the organism of *Schweineseuche*, introduced in the same way, death resulted in from two to six days; nothing was found but peritonitis. In neither case did inoculation of swine in the subcutaneous tissue, or intraperitoneally, or by feeding experiments, cause death, but when introduced into a loop of the ileum the bacillus of hog cholera gives rise to swelling of the lymphatics and mucosa and ulceration, and to small grey points in the liver similar to those already mentioned. The bacillus of *Schweineseuche*, when introduced into the ileum, gives rise to no changes in the alimentary canal. On this evidence Dr. Raccuglia confirms the opinions already published that the hog cholera bacillus and the Loeffler-Schutz *Schweineseuche* bacillus are not identical.

(54) Secondary Effects of the Diplococcus Pneumoniæ.

Dr. U. Gabbi and Dr. G. Puritz (*Centralbl. f. Bakt. u. Parasitenk.*, Bd. viii, No. 5, July 25th, 1890, p. 137) give two interesting cases of acute pneumonia in which the diplococcus pneumoniæ appears to have given rise to secondary acute inflammatory processes. These were the only two of a series of twenty-five cases in which this occurred. The first was a man, aged 40, who came in with the symptoms of a severe apical pneumonia. Diplococci were found in the sputum, but nothing further was noticed until after death. At the necropsy there was pleurisy at the upper lobe of the right lung and grey hepatisation. There was œdema of the left lung, and a certain amount of coagulated fibrin in the pericardial sack. On the outer side of the ankle was a swelling which contained a purulent fluid; although the tibio-astragaloid joint was surrounded, there was no fluid in the joint itself. Cocci and diplococci similar to those found in the sputum were demonstrated in this fluid. Cultivation and inoculation experiments proved the identity of these organisms with Fränkel's encapsuled diplococcus of pneumonia. The case is interesting from the fact that although several cases of articular suppuration have occurred, this appears to be the first case recorded of periarticular suppuration occurring in connection with acute pneumonia. The second case was that of a man, aged 47, who had all the symptoms of acute pneumonia of the whole of the front of the left lung. He appeared to improve for some time, but ultimately died with symptoms of meningitis and endocarditis. Here the capsuled diplococcus was also found in the rusty sputum. The diagnosis was confirmed after death. There was suppurative meningitis, in the exudation connected with which similar organisms were found, as also in the recent fibrinous vegetations that were present on the valves of the left side of the heart. These two conditions were evidently secondary to the acute pneumonia met with in the lung. Cultivation and inoculation experiments gave additional proof that the organism was the same in all three positions—the diplococcus pneumoniæ. A list of the records of previous similar cases is given.

(55) Bacteria in Drinking Water.

Dr. W. Migula (*Centrabl. f. Bakt. und Parasitenk.*, Bd. viii, No. 12, September 12th, 1890, p. 353) makes a contribution to our knowledge of this subject which is really a new departure as regards the examination of drinking water. He points out that, although considerable stress has been laid on the examination of water for pathogenic organisms, there is no reliable rule to guide the hygienist in his examinations for the ordinary saprophytic organisms and their relation to the purity of water to be used for drinking purposes. Dr. Migula washes out small flasks with bichloride of mercury; then, after rinsing them with the water to be examined, he leaves a specimen in the flask, which is plugged with sterilised cotton wadding and covered with an india-rubber cap. It is not necessary to pack the flasks in ice, as it is assumed that if any of the organisms multiply, they will all do so; whilst if the putrefactive organisms (those that liquefy gelatine) grow more rapidly than the others, independent evidence is obtained of the impurity of the water. Cultivations are made in flat glass dishes, in order to save the time required in manipulating plates and tubes during the cooling process. After examining 400 springs, wells, and streams, the author has come to the conclusion that when there are more than ten species in any sample of water, especially when these are not species ordinarily met with, the water should not be used for drinking purposes. He found that only in 59 waters was this the case, but that 169 waters contained more than 1,000 organisms per cubic centimètre, 66 of these having over 10,000 (40 over 50,000). From these figures it will be seen that some of the sources of supply would be condemned by the old method but would be passed by the new, and some condemned by the new would be passed by the old. Migula found in all 28 species, and in a series of tables he brings out the fact that the number of colonies does not by any means correspond with the number of species, though in some cases it undoubtedly does so. This is, in fact, an exceedingly variable quantity. It also comes out that putrefactive bacteria are almost invariably absent from spring water, that they are most frequently found where the number of species is great, and where the number of colonies is between 1,000 and 10,000 per cubic centimètre, that they also occur where the number of germs is below 50 per cubic centimètre, but very seldom when the number is over 10,000.—Dr. L. Schmelk, who recently (*Centralb. f. Bakt.*

und Parasitenk. Bd. iv, No. 7, 1888, p. 195) pointed out that there is a great increase in the number of bacteria in the water supply of Christiania during the period that the upland snows are melting most actively, now (*Centralb. f. Bakt. und Parasitenk.*, Bd. viii, No. 4, July 18th, 1890, p. 102) gives further evidence, collected during the last three years, in proof of his theory. The numbers he finds for these years were 10 or 15 cubic centimètres in March to 2,500 in April, 1888, 1,100 in 1889, and on March 28th, 1890, 5,000; the breaking up of the winter snows having occurred this year much earlier than usual. This is the period during which the winter snows are melting, and after this is completed there is no marked increase in the numbers of bacteria in the lake water until the reappearance of the winter snows, some of the earlier falls of which during October, November, and December melt and disappear. In December the number of bacteria per cubic centimètre sometimes reaches 600, the highest point recorded during the year except in March. Dr. Schmelk thinks that the increase is due to the action of frost in breaking up the earth's surface from which the contained organisms may be set free as soon as a thaw occurs, and then washed away along with the surface soil just as during great rain storms. He also points out that masses of ice projecting into a river may form "collecting" points for particles suspended in the flowing water, as more bacteria are always found in the water obtained from such ice when melted than in the river water itself. He verified this by repeated experiments. He found, however, that when floating ice was melting in water, though it contained a few more organisms than water collected near the surface, it held far fewer than water taken from a considerable depth. In the Christiania water supply he found some thirty species of bacteria, some of which occurred very seldom, some at certain periods of the year only, and a few all the year round. The amount of solids in the water varies, from time to time, between 0.92 and 0.94 grammes per litre, and traces of ammonia can usually be found in water during the time that it contains most bacteria.

PHARMACOLOGY AND THERAPEUTICS.

(56) Toxic Effects of Exalgine.

Dr. Edmund Falk (*Therap. Monatsh.*, August, 1890) says exalgine as methyl-acetanilide (that is, as methyl-antifebrin) is an antipyretic, but its effects in this direction do not appear unless it is given in unsafe doses. As an analgesic it acts in much smaller doses. Amongst the by-effects which have attended it as an analgesic are the following:—Sweating, but this is not common with careful dosing (3 to 6 grains). More frequent is giddiness, which appears in a number of cases in from a quarter to half an hour from the administration; this symptom may amount to a sense of drunkenness, with swimming in the head and noises in the ears. In Bokenham and Jones's case there was darkening of vision, and later delirium and loss of consciousness. Convulsions occurred in Hepp's case of phthisis in which 4.5 + 7.5 grains were administered. Disturbances of digestion, epigastric discomfort, nausea and vomiting are rare. Blood changes have not been witnessed in man, but in animals there has been diminution of oxyhæmoglobin. Of rashes there have been observed only erythemata. Prevost counsels great caution in using this aniline derivative, which, as such, may easily damage the blood. He, as well as Heinz, and Dujardin-Beaumetz and Bardet, considers fever to be a contra-indication.

(57) Alkaloids of Areca Nut.

Professor Marmé (*Therapeutische Monatshefte*, 1890, p. 291) has investigated the physiological action of the alkaloids of areca nut. Areca nut (betel) is the seed of the areca catechu, and is used in India and China medicinally as an astringent, antiperiodic, and an anthelmintic. Flückiger described the nut as containing 14 per cent. fat and 15 per cent. tannin. Bruchelow, later, described an alkaloid, arecan. E. Jahns has lately described other alkaloids, two of which are named arecolin and arecaïn. Arecolin, $C_8H_{13}NO_2$, is a fluid oily base, forming definite salts with acids. The bromate is readily soluble in water, and tastes salty; it was used for the investigation. Twenty-five to 50 milligrammes ($\frac{3}{8}$ to $\frac{3}{4}$ grain) kill rabbits within five to fifteen minutes: 10 to 20 milligrammes ($\frac{1}{6}$ to $\frac{1}{3}$ grain) are fatal to cats, when subcutaneously injected. Dogs are killed by larger doses. The symptoms produced by arecolin resemble partly those caused by peltierine (the alkaloid from pomegranate), and partly those caused by muscarin or by pilocarpin. Arecolin is a local irritant when applied to mucous membranes, and when applied to the eye it causes contraction of the pupil for an hour. When a large dose is applied to the eye of the rabbit, ptyalism and diarrhœa are produced, with a passing retardation of the heart's action. Medium doses introduced into the stomach cause vomiting and diarrhœa. This action of arecolin in producing evacuations is no doubt part of the effect of areca nut as an anthelmintic. Small doses subcutaneously injected in frogs slow the action of the heart, which stops finally in diastole, occasionally giving feeble beats. This effect resembles that of muscarin, and is, like that of the latter alkaloid, completely antagonised by small doses of atropine. Arecolin also affects respiration, causing dyspnœa, which appears to be due to excessive bronchial secretion. Like peltierine, it has a paralysing action on the brain, but not to so marked an extent. The reflex excitability of the spinal cord is at first increased, then diminished. Arecaïn, the second alkaloid isolated by Jahns, is not poisonous. Arecolin is excreted by the urine and the secretions of the gastro-intestinal tract. The action of arecolin possibly explains betel chewing.

(58) Therapeutic Value of Sulphate of Cinchonidine.

Dr. de Braun, Physician to the French Hospital at Beyrouth, has published (*Revue de Médecine*, September, 1890) the results of a large series of observations on the treatment of malarial affections with sulphate of cinchonidine. He was induced to give it a trial from considerations of economy, as its price is only about one-sixth that of quinine, the comparatively high price of which was a serious drain on the resources of the hospital. (1.) In simple intermittent fevers of the tertian or quartan type he found it quite as efficacious as sulphate of quinine. Seventeen cases are reported, and in eleven of these the fever was cut short on the first day, in three on the second day, and in three on the third day. The temperature fell from the first, while the headache, sweating, rigors, insomnia, and other well-known symptoms were also much ameliorated. The doses and method of administration are the same as with quinine. (2.) In chronic malarial poisoning, with enlargement of the liver and spleen, and in cases of remittent fever, cinchonidine was found to act quite as rapidly and efficaciously as quinine. The patients, as a rule, entered the hospital profoundly cachectic and anæmic to the last degree, with the typical appearance of persons suffering from malarial poisoning. The microscopic changes in the blood were also well marked. In a few days their whole condition improved steadily and regularly, appetite and energy

returned, the face and mucous membranes lost their pallid tint, and the heart murmurs disappeared. After one week of treatment many were so much improved that they refused to remain longer in hospital, the average stay being only twelve days. In one case with very profound anæmia the red corpuscles were only 1,780,000 per cubic millimètre of blood; six days later they numbered 2,480,000; and in sixteen days 3,560,000. At the same time the breaking down of the blood corpuscles ceased. In three cases in which albuminuria was present it disappeared without special treatment. The other complications of malaria often met with were benefited in an equal degree. In those cases where the enlargement of the liver and spleen was due to simple congestion these organs regained their normal dimensions, but in others where interstitial changes and fibrous thickening had occurred an improvement only was observed. Twenty-three cases are reported, with full details. (3.) In malarial neuralgia, and also in neuralgias supposed to be non-malarial, cinchonidine was found to be efficacious. (4.) In certain cases where sulphate of quinine had failed cinchonidine effected a speedy cure. Eleven cases are given in detail. After cessation of active treatment with cinchonidine the patients remain for a long time in good health; they are also, in Dr. de Brun's opinion, more capable of resisting fresh malarial poisoning than after a similar course of quinine. He is also of opinion that cinchonidine should not be regarded merely as a substitute for quinine, but as a remedy having a distinct value of its own and superior in the treatment of certain cases to sulphate of quinine.

(59) Toxic effect of Calomel in the Presence of Chlorides of the Alkalies.

Dr. Paul Adam (*Nouveaux Remèdes*, August 24th, 1890) confirms the statements of such authorities as Moll, Hervé, Guibourt, Larocque, Jolly, and others to the effect that within the body calomel does not to any appreciable extent go into solution as sublimate. M. Mialke's assertion that it does, and that the agent in effecting this is sodium chloride, is still current doctrine. Dr. Adam's experiments were made both in the absence and presence of organic matter; in either case only traces of mercury went into solution provided that there was not free access of air. In the presence of air a considerably quantity of mercury was dissolved. The author claims that within the body the access of air is practically *nil*. Besides experiments outside the body, others were made on the living animal which confirmed the above negative statement.

ANATOMY.

(60) The Dura Mater in the Spinal Canal.

Wagner (*Archiv. für Anat.*, Parts 1 and 2, 1890) has a paper on the ending of the sac in the dura mater in the human spinal canal. The frequency with which the sacrum has of late been the subject of operation has necessitated more exact knowledge. Investigations were made by injecting the dura mater of children and adults. It was found that the lower end of the dural sac reached the lower end of the second sacral vertebra. The sac may reach the third vertebra in children, but never descends lower. In children the vertebral column is so mobile that the position of the meninges may alter within wide limits.

(61) The Clavicle and its Articulations.

P. Poirier (*Journal de l'Anatomie*, March and April, 1890, p. 82) gives a detailed account of the anatomy of the clavicle, and of its development and ossification. The current accounts of the sterno-clavicular articulation were not confirmed by numerous dissections. The costo-clavicular ligament is the inferior ligament of the articulation; it consists of two planes of fibres with a serous bursa between them and in its midst. A firm cartilage can occasionally be seen in the acromio-clavicular articulation, and there is a large bursa between the conoid and trapezoid ligaments, and a smaller one in the midst of the conoid. Ossification of the conoid and trapezoid ligaments was occasionally observed.

(62) The Articular Surfaces of the Tibia and Astragalus.

Mr. Arthur Thomson (*J. of A. and Phys*, vol. xxiv, p. 210) discusses the influence of posture on the form of the articular surfaces of the tibia and astragalus in the different races of man and the higher apes. Further observations are given to show that the squatting posture assumed by some races will account for the convex shape of the upper external articular part of the tibia, and also for the facets sometimes found upon the front of the lower edge of the tibia and upon the outer side of the neck of the astragalus. These are caused by mutual apposition during extreme dorsal flexion of the joint in the squatting posture. Similar facets were found in the crang.

(63) Epithelium of the Bladder.

A. S. Dogiel (*Archiv für Micros. Anat.*, Part 4, 1890, p. 380) discusses the nature of the epithelium of the urinary bladder. He quotes authorities to show that the question is still in dispute. Dogiel has examined the epithelium of the bladder in mice, rats, hares, dogs, cats, and man. The usual hardening materials were used, and osmium, picrocarmine, and hæmotoxylin staining. Scrapings and sections were used. Two layers of cells were determined: an inner of irregularly polygonal plates, and an outer of a cylindrical or cubical form. The innermost cells had processes which projected into the bladder.

(64) Histology of Striped Muscle.

C. F. Marshall (*Quart. J. of Micros. Sci.*, vol. xxxi) publishes a continuation of a paper which appeared in the same journal in 1887, in which the striation was attributed to the optical properties of an intracellular network. The appearance of stripes is also due, in some cases, to the corrugated outline of the fibre. The cardiac muscle fibres contain the intracellular network, but muscles which move slowly possess none. Retzius's observation that the transverse portions of the muscle network are connected with the muscle corpuscles is confirmed. The views of other observers are discussed, and fifteen figures accompany the text.

(65) The Muscles of the Ear.

G. Killian (*Anatomischer Anzeiger*, No. 8, p. 226), deals with the comparative anatomy and development of the muscles of the ear. Dr. Killian considers the stapedius to be the oldest of the muscles of the internal ear; the tensor tympani appearing later. He finds that the stapedius is derived from the posterior belly of the digastricus muscle in reptiles, amphibia, and mammals. The tensor tympani afterwards springs from the internal pterygoid muscle, and he traces its nerve supply to the nerve to the internal pterygoid passing through the otic ganglion in its course.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.